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PHRASE STRUCTURE RULES 13-18--LANGUAGE CURRICULUM I, STUDENT VERSION.

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A GUIDE WAS PREPARED FOR STUDENT USE IN A SEVENTH-GRADE LANGUAGE CURRICULUM. SIX PHRASE STRUCTURE RULES AND LINGUISTICS SYMBOLS WERE DISCUSSED. TWELVE ADDITIONAL RULES WERE REPORTED EARLIER (ED 010 145 AND ED 010 146). APPROPRIATE INSTRUCTION AND EXERCISES WERE INCLUDED. AN ACCOMPANYING GUIDE WAS PREPARED FOR TEACHERS (ED 010 146). A REVIEW UNIT ON THE 18 PHRASE STRUCTURE RULES WAS REPORTED IN ERIC DOCUMENT (ED 010 152). (WN)

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OREGON CURRICULUM STUDY CENTER

PHRASE STRUCTURE RULES 13-18

Language Curriculum I
Student Version

The project reported herein was supported through the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education, and Welfare.

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THE NOUN PHRASE

In our first discussion of the kernel sentence we discovered that we could divide the sentence into two parts, which we called the Verb Phrase and the Noun Phrase. We are now ready to look at the Noun Phrase and to analyze the parts that go into it. We will try to find out how the complex noun phrases which we speak every day grow out of (are generated by) the noun phrases of the kernel sentences.

Exercise 1:
Copy the following sentences and put a plus between the NP part and the VP part, as we did in the exercise on the kernel sentence. Then underline the NP. Remember that the division doesn't necessarily come in the middle.

Example: The boy + slept.

1. The boy slept.
2. The house burned down.
3. The cat climbed the tree.
4. A monkey threw the banana.
5. A jeep goes everywhere.
6. An apple rolled away.
7. Some books were left here.
8. The idea pleases me.
9. These people have built a swimming pool.
10. The smoke rose slowly.
11. That school is my alma mater.

We see that everyone of these Noun Phrases contains two words. Try to arrange these words in the NP in two columns, placing the words that seem to act like "the" in one column and the ones that seem to act like "boy" in the second column. In what way do the words in your second column seem to be alike? In what way do the words in your first column seem to be alike? We call words like those in the second column (boy, house, cat, etc.) nouns and we use the symbol N to indicate them. The words like those in the second column (the, a, that, these, some, etc.) we call determiners and use the symbol T to indicate them. The most common determiners of English are a, an, the, that, this, those, these, some, any. They are always attached to a noun in a noun phrase.

Now, of course, in the sentences of real life, the Noun Phrase part of the sentence usually has more than two words. As we found in our discussion of the kernel sentence, a simple noun phrase such as "The teakettle" can be expanded in many ways. It is important to remember, though, that in the English sentence the Noun Phrase is an essential part and that we rewrite it as T+ N. Sometimes this essential Noun Phrase is called the

subject. We wouldn't have a sentence without it.

Exercise 2:
Copy the following sentences and fill in the blanks with appropriate nouns to make English sentences.

1. The _____ ran quickly.
2. The _____ gave them some money.
3. A _____ lost the book.
4. This _____ is our father.
5. The _____ borrowed two eggs.
6. Some _____ knocked on the door.
7. That _____ makes me angry.
8. These _____ are hard to understand.
9. The _____ are our friends.
10. The _____ contains oranges.
11. An _____ fell from the tree.
12. Those _____ were burned down.
13. That _____ surprised me.
14. This _____ spreads the blacktop.
15. Some _____ lies on the floor.

Exercise 3:
Copy the following sentences and fill in the blanks with appropriate determiners.

1. _____ fish grabbed the worm.
2. _____ woman washed the dishes.
3. _____ bell rang in the distance.
4. _____ people came to see the car.
5. _____ airplane circled above the fog.
6. _____ deer hit the car.
7. _____ children stepped in the wet cement.
8. _____ book belongs to me.
9. _____ pictures came from the art gallery.
10. _____ parts are difficult.

Perhaps you have been wondering about the noun phrases you found in other parts of the sentence. You may remember that in our discussion of the Verb Phrase we noted that English sentences begin with two essential parts, the Noun Phrase and the Verb Phrase. But we also noted that if the Verb of the Verb Phrase turns out to be a mid verb as in Rule (9), or a transitive verb as in Rule (10), it is followed by a Noun Phrase. Can you remember where else we found a noun phrase in the VP part of the sentence? (Look at Rule 11.) In the preceding exercise can you find any Noun Phrases besides the essential Noun Phrase at the beginning of the sentence? What are some characteristics of noun phrases?

Exercise 4:
Copy the following sentences, underline all the noun phrases you can find and label the nouns N and the determiners T.

T N T N
Example: A cricket crawled on the floor.

A. 1. The men gave the girl a present.
2. Some people called on the Smiths.
3. The shirt was on the line.
4. This candidate will answer the question.
5. A cloud hid the sun.
6. Those skis belong to the club.
7. The boy is wearing a coat.
8. An orange would taste good.
9. The nurse will take these children to the hospital.
10. The child is a genius.

B. 1. This report will shed some light on the problem.
2. Those quarters are a part of that collection.
3. Some men climb this mountain without a rest.
4. These binoculars make that ship seem close.
5. This tunnel makes an escape possible.
6. A part of that land will need some water.
7. An elephant can do that work without help.

Notice that wherever you find a noun phrase it is rewritten T + N.

Determiners

Exercise 5:
Copy the following sentences and underline the noun phrases. Then try to decide if some of the noun phrases at the beginning of the sentences are different from others. Which ones do you feel are different? What is different about them?

1. The horses ran away.
2. The horse is a large animal.
3. Horses are large animals.
4. These people will be gone tomorrow.
5. People are funny.
6. The boy is a drummer.
7. Jerry is a drummer.
8. The movie will be here tomorrow.
9. It will be here tomorrow.
10. Mathematics is an interesting subject.
11. Magic is his hobby.
12. The rice is cooking.
13. Rice grows in Indonesia.
14. Tom carried the ball.
15. He carried the ball.
16. The boy carried the ball.

Did you discover that some Noun Phrases are lacking a determiner? Can you think of some other sentences in which you would not use a determiner in the noun phrase? How do you know when to place a determiner in front of the noun and when to leave it out? The

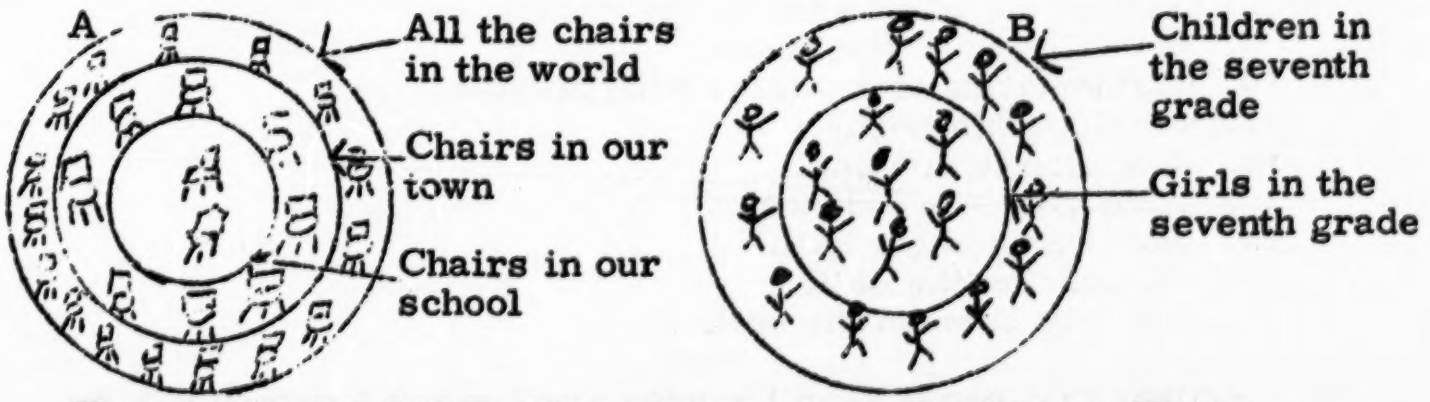
fact is that when you speak you automatically make the distinction and attach determiners to the nouns or leave them out, according to what is appropriate in English sentences. This is, of course, your built-in grammar working.

Exercise 6:
Copy the following sentences and write determiners in the blanks where they are needed. Leave the blanks empty where you would not use a determiner.

1. _____dinosaur was a large animal.
2. _____dinosaurs are extinct.
3. _____water and oil do not mix.
4. _____water was shut off last night.
5. _____radio was left on.
6. _____television is here to stay.
7. _____gold was mined in the Idaho mountains.
8. _____gold weighed thirteen pounds.
9. _____neighbors are away.
10. _____Smiths are away.
11. _____He is away.
12. _____George is away.
13. _____caviar is a luxury.
14. _____caviar is on the shelf.

Sometimes we leave the space in front of the noun empty (with no determiner). How shall we indicate this fact? We need a symbol for it so that when we make a string of elements in the noun phrase we can fill the space where the determiner ordinarily goes.

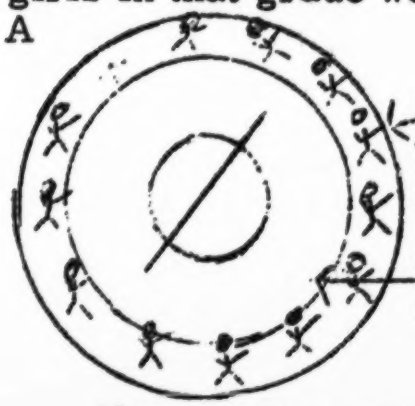
Again let us borrow a concept from mathematics. It may be that many of you are already familiar with this idea. In mathematics we say that we can have a set of items, which means a group of items. We can have a set of all the chairs in the world, or a set of all the chairs in our town, or a set of all the chairs in our school. If we want to talk about a small group of items within a set we say that we are talking about a subset. All the chairs in our town are a subset of all the chairs in the world. All the chairs in our school are a subset of all the chairs in our town, and also a subset of all the chairs in the world. A picture of this relationship might look like A below.



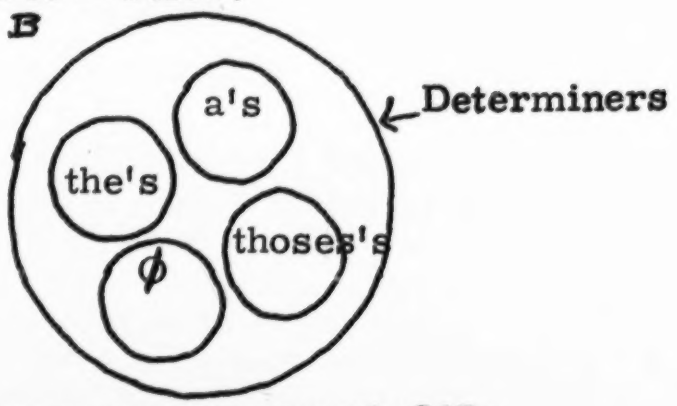
The picture labeled B above shows a set of children. We can talk about the children in the seventh grade as being a set of the

children in that seventh grade. All the girls in the seventh grade would, then, be a subset of all the children in the seventh grade. Suppose, however, that there weren't any girls in your seventh grade. How could we indicate that? In mathematics if a subset doesn't have any members at all we say it is the empty set and use the symbol $\emptyset$ to indicate it. Therefore, if we had a grade that had only boys in it we would have to say that the subset of girls in that grade was the empty set. See A below.

A



B



Now when we are talking about determiners in English sentences we can say that we have a set of all determiners. A subset of the set of determiners would be all "the's"; another subset would be all "a's", etc. And if a noun doesn't select (doesn't use) a determiner we could say that it has chosen a member of the empty set. (See B above.) We used this notion before in the discussion of the manner adverb (Rule (12)).

Exercise 7:
Copy the following sentences and fill in the blanks with a determiner, or with $\emptyset$ if the noun requires that no determiner be used.

A. 1. _____Chinese are a noble people.
2. _____hat is more becoming than that one.
3. _____China is an ancient country.
4 _____you won't miss me.
5. _____blood was smeared on the steps.
6. _____Korean enrolled in school this fall.
7. _____Koreans are often talented in music.
8. _____Koreans live in a divided country.
9. _____mammoth is extinct.
10. _____mammoths lived in North America.
11. _____truck ran off the highway.
12. _____trucks are larger than station wagons.
13. _____Marie graduated at mid-term.
14. _____school is out for the summer.
15. _____school won the tournament in debate.

B. 1. _____plants require more light.
2. _____courage is hard to measure.
3. _____settlers replaced the Indians.
4. _____rules make the game interesting.
5. _____marble was used for the mantel.
6. _____marble was an agate.

7. _____people seldom learn from experience.
8. _____people moved away.
9. _____Clarinda fell from the horse.
10. _____Mathematics is my favorite subject.

We can now use linguistic symbols to express the fact that noun phrases are rewritten as determiners plus nouns.

NP ----> T + N

Remember that T can be a / an, some, this / these, that / those, or ϕ.

The Pronoun

At this point we should talk about a special kind of noun which appears frequently in noun phrases. Copy the following sentences and underline the essential noun phrases (subject).

1. The boys ran away from home..
2. They ran away from home.
3. An elk jumped the fence.
4. It jumped the fence.
5. The president made a speech.
6. He made a speech.
7. Margaret is the chairman.
8. She is the chairman.
9. You will never catch up.
10. I lost my permit.
11. We will go on Friday.
12. This rain will last all day.
13. This will last all day.
14. These papers have been checked.
15. These have been checked.
16. That Buick is beautiful.
17. That is beautiful.

What did you underline in sentences 2, 4, 6, 8, 9, 10, 11, 13, 15, and 17? How are the words you underlined in these sentences different from those you underlined in the other sentences? These words have sometimes been called pronouns, probably because they act like nouns. Actually they are a kind of noun. They are used as the noun part of noun phrase. In sentence 12 what is this? But what is it in sentence 13? What is the difference between these in sentences 14 and 15? What is the difference between that in 16 and 17?

Do you feel there is any difference between the pronouns in sentences 13, 15, and 17 and those in sentences 2, 4, 6, 8, 9, 10 and 11? We will talk about the difference at a later time in our study of the grammar. Perhaps right now you would like to know that they, it, he, she, you, I and we are called personal pronouns. Other forms are me, him, her, us, and them.

Look once more at the preceding sentences and try to decide whether or not this particular kind of noun which we have underlined (the pronoun), selects a determiner or selects the empty sign.

In this section we have learned that NP is rewritten as T + N, and that some nouns select the empty sign $\emptyset$ for the T.

Number in Nouns

What else can we find out about the Noun Phrase? You may remember that we call the NP that precedes the VP the subject, but that there may be NP's in other parts of the sentence.

1. The boy won the marble game.
   The boys won the marble game.

2. The hen laid the egg.
   The hen laid the eggs.

3. The man started the boat.
   The men started the boat.

4. The arrow hit the deer.
   The arrows hit the deer.

5. The oriole flew into the tree.
   The orioles flew into the trees.

Pick out the words that are different in each pair of sentences. List the words in two columns, the word from the first sentence in the first column and the word from the second sentence opposite it in the second column.

For example:	1st column	2nd column
	boy	boys

What kind of words have we listed? How do they differ? We say that this difference in nouns is a matter of number. We use the symbol N^o to indicate this quality.

In Rule (7) we talked about number of the nouns in the Noun Phrase. We found that the number of the noun in the Noun Phrase before the verb controls the number of the noun in the Predicate. Every noun has number, which attaches to it just as tense (Rule (4)) attaches to a verb. Number is indicated by the form the noun takes. The symbol N^o simply means that there is something about every noun which shows if it means "one" or "more than one." Let us write a rule which shows that every Noun Phrase has number and that it also has a determiner.

Rule (13) NP ----> T + N + N^o

Remember that wherever a Noun Phrase occurs in English sentences it is rewritten as T + N + N^o. We can show the way number attaches to nouns and whether the number means one or more than one in this way:

T + N + N^o ----> the + boy + (one) or the boy
T + N + N^o ----> the + boy + (more than one) or the boys

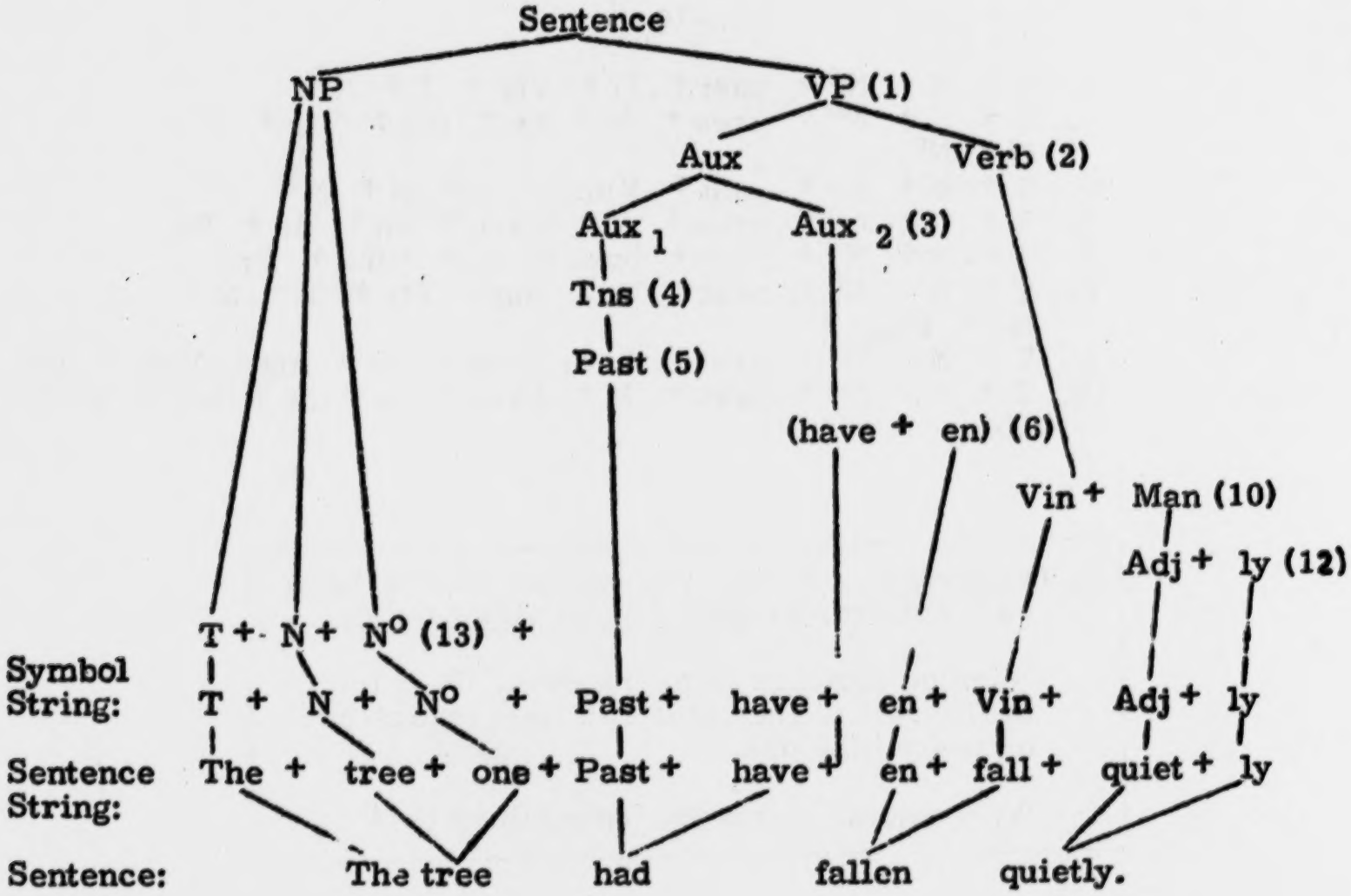
Later we will use linguistic symbols which will stand for one and more than one.

Exercise 8:
List all of the Noun Phrases in each of the following sentences. Then after them show that they are T + N + N^o. Do it in this way:

Example: The cat caught some mice.
The cat T+ N + N^o--> the + cat + one---> the cat
some mice T+ N+ N^o---> some+ mouse+ more than one---> some mice

1. The canary escaped.
2. A beatnik sang on the corner.
3. The singers pleased the audience.
4. This boy is a boxer.
5. These terriers belong to Mary.
6. The children are at the movie.
7. The giant hid in the cupboard.
8. The students were running in the hall.
9. That plane stood on the runway.
10. The women formed a club.

Exercise 7:
As far as you are able, generate the following sentences by means of branching diagrams. That is, apply all the rules you know so far, numbering each rule as you apply it. Your diagram will be quite full of symbols. In order to keep them straight it is convenient, after you have applied all the rules, to bring down all of the symbols into a string, called the symbol string. This will give a clear picture of the string of elements which underlies each sentence. Then convert the symbol string into the sentence string by substituting words for the symbols. You will still have some symbols which do not become words. Finally you should have the complete sentence. Study the example before starting your own diagrams.


Sentence
NP
VP (1)
Aux
Verb (2)
Aux 1
Aux 2 (3)
Tns (4)
Past (5)
(have + en) (6)
Vin + Man (10)
Adj + ly (12)
T + N + N° (13) +
Symbol String:
T + N + N° + Past + have + en + Vin + Adj + ly
Sentence String:
The + tree + one + Past + have + en + fall + quiet + ly
Sentence:
The tree had fallen quietly.

A. 1. The cashier opened the register.
2. Mortimer has run eagerly.
3. Evil will befall him.
4. The thief was a crow.
5. The priest had seemed ill.
6. The class was praising the speech.
7. Some dog has been barking.
8. She will astonish the group.
9. Rice tastes good.
10. Crickets have been chirping merrily.

B. 1. Some films should have arrived.
2. Sand is killing the grass.
3. The deer are becoming tame.
4. That bus would be late.
5. The door must be closed quietly.
6. The toaster has been throwing the toast violently.
7. They will have breakfast on the launch.
8. Some flavors seem flat.
9. Pandora might have been feeling curious.
10. Turpentine has been dripping steadily.

C. Convert these symbol strings to sentences of your own.

1. T + N + N° + pres + have + en + Be + Pr.
2. T + N + N° + past + Vin + Man.

3. T + N + N^o + past + M + Vtr + T + N^o.
4. T + N + N^o + pres + M + be + ing + Vtr + T P N + N^o.
5. T + N + N^o + past + Vmid + T + N + N^o.
6. T + N + N^o + pres + M + have + en + Be + Pr.
7. T + N + N^o + past + have + en + Vlnk + Pr.
8. T + N + N^o + past + be + ing + Vtr + T + N + N^o + Man.
9. T + N + N^o + pres + have + en + be + ing + Vlnk + Pr.
10. T + N + N^o + pres + M + have + en + be + ing + Vin + Man.

To remember: A noun phrase can be rewritten as a determiner plus a noun plus number.

Number attaches to every noun. It is the quality which indicates if a noun means one or more than one.

With certain nouns the determiner is $\emptyset$

COUNTABLE NOUNS
MASS NOUNS

In the last few rules we have been talking about nouns. Let us see what else we can discover about them. Make a list of all the nouns you can think of in five minutes. Do any of them mean "one"? Can you change these to make them mean "more than one"? Perhaps we can find out another way in which nouns differ by looking at the nouns in the following sentences. First list all the nouns that you can find.

1. The rainbow stretched across the sky.
2. The rice bubbled on the stove.
3. The fish was hooked on the lure.
4. The coed answered the phone.
5. The dog was covered with blood.
6. The prospector mined gold in the hills of Idaho.
7. This railing is made of iron.
8. Smoke filled the room.
9. Students have no leisure.
10. Mary filled the glasses and set the table.

Let us try an experiment with these nouns. Below are two sentences with blanks in them. We can call these sentences frames because we are going to try to fit our nouns into them. Copy the frames on your paper and try to put each noun which you underlined in one of the frames. List it under the frame where it would best fit.

Example: The goat ate the can.

How many_____(s) are there? How much_____is there?
goat
can

Can you ask "How many goats are there?" Can you ask "How many cans are there?" Then goat and can belong under the first frame. If you can ask "How much is there?" about a noun, place it under the second frame.

Exercise 1:
Think of some other nouns which will fit in frame 1 and some which will fit in frame 2. List them under the proper frames.

Will the nouns which you placed under frame 1 fit into frame 2? Can you see any difference between the nouns under frame 1 and those under frame 2? We call the nouns which answer the question "How many?" countable nouns and use the symbol Ncnt. Can you think why they are called that? We call the nouns which answer the question "How much?" mass nouns and use the symbol Nm. Can you think why they are called mass nouns?--

Can we observe any other characteristics about these nouns? Into which of the following frames can you put the nouns which you listed under "How much?", that is the mass nouns?

Some _____ or a _____

Exercise 2:
Copy the following sentences, underline the Noun Phrases and label the nouns Ncnt or Nm.

A. 1. Teenagers eat much food.
2. The milk turned sour.
3. I drink coffee without cream.
4. The fields were green.
5. Claribel cried in her handerchief.
6. The men counted the money secretly.
7. The ice on the pond went out.
8. Dr. Whitemen pulled a tooth for me.
9. The mouse excaped through the hole.
10. The cat climbed under the hood.

B. 1. The rain washed away the soil.
2. Are you telling the truth?
3. She had to sit in the corner.
4. Fill the bucket with coal.
5. His acting in the play was good.
6. Space is the new frontier.
7. The writer left a space between the lines of poetry.
8. The Scots showed great courage.
9. Father shattered the silence with his snoring.
10. Krakatoa blew a cubic mile of earth into the air.

We are now ready to write a rule which will show that nouns can be classified as either count nouns or mass nouns, but not both at the same time.

Rule (14) $N \rightarrow \begin{Bmatrix} Ncnt \\ Nm \end{Bmatrix}$

What do the braces mean?

To remember: Nouns can be classified as either count or mass nouns.

To test for count nouns you ask how many?

To test for mass nouns you ask how much?

Mass nouns appear with some but not with a.

ANIMATE AND INANIMATE NOUNS

Now let's experiment with some count nouns. Look at the following sentences. Which ones would you say were sentences that speakers of English might use in ordinary conversation?

1. The book sleeps on the shelf.
2. The table slept soundly.
3. The chair is sleeping in the classroom.
4. The road sleeps in the spring.
5. The star has been sleeping in the Milky Way.
6. The baby will sleep in the cradle.
7. The man sleeps like a baby.
8. George Washington slept here.
9. The bridge slept in the water.
10. A bear sleeps all winter.

Which of these sentences do you feel a speaker of English would not use? Now list the subject nouns of the acceptable English sentences in one column. In another column list the subject nouns of the unacceptable sentences. Do you feel there is any difference between the nouns in the two columns? In what way do they differ ? What kind of verb is sleep in the sentences above?

The nouns which we can use as subjects of the intransitive verb sleep are called animate nouns (Nan). Those which can not be used as subjects for the intransitive verb sleep are called inanimate nouns (Nin). Therefore, we can say that a way to test to find if a noun is animate or inanimate is to see if it can be used as the subject of the verb sleep.

Exericse 1:
List all the nouns you can think of which can be used as the subject of sleep.

List all the nouns you can think of which can not be used as the subject of sleep.

Think of some other verbs which require animate nouns for the subject.

In Rule (10) we found that when we have a transitive verb it is followed by an NP. We showed this fact by these symbols: VP----> Vtr + NP. We sometimes say that a noun in Vtr + NP is the object of the verb. Let's try some nouns as the object of verbs like astonish, astound, surprise. Which of the following sentences would you accept as English sentences which you might speak?

1. Thunder terrified the child.
2. Thunder terrified the book.
3. Hortense astounded the egg.
4. Hortense astounded her father.

5. Clarence bribed his lawyer.
6. Clarence bribed his Buick.
7. The announcement surprised the judge.
8. The announcement surprised the rock.

What kind of nouns follow the verbs in the acceptable sentences? What kind in the unacceptable? Now try to state another way to test for whether a noun is animate or inanimate.

Exercise 2:
List ten nouns which can fit into the blank of the following frame:

NP + terrify + _____.

The tests we have used so far to identify animate and inanimate nouns depend somewhat upon the meaning of the verbs we used (asleep and terrify). Can we find a test that does not depend on meaning? Look once more at the sentences at the beginning of this section. Rewrite the sentences, substituting he, she, or it for the subject noun phrases in each. For which ones can you substitute only it? For which ones can you substitute he or she? Are there any for which you can substitute either he, she or it? The nouns for which only it can be substituted are inanimate nouns. Are they the same ones you found couldn't be the subject of sleep?

We have been discovering that some count nouns from a special class called animate nouns. How can we write the rule which shows that a count noun will be animate or inanimate, but not both?

Rule (15) Ncnt ----> {Nan, Nin}

Exercise 3:
Here is a list of nouns. Apply the tests we used to find out if a noun is animate or inanimate. Place all of the nouns which are animate in one column. Place all those which are inanimate in another column.

game, boy, horse, rocket, desk, butterfly, policeman, teacher, otter, bell, seal, sky, cactus, electrician, child, car, George, fence, tree, beatnik, elephant

animate nouns	inanimate nouns
boy	game

To remember: Some count nouns are animate nouns; some are inanimate. An inanimate noun is one for which only it (not he or she) can be substituted.

HUMAN AND NONHUMAN NOUNS

We have found that some count nouns may also be animate nouns. It might be interesting to think for a little about animate nouns and see if we can find out anything else about them. We will begin by doing a variety of things to nouns in the sentences of the following exercise.

Exercise 1:
Copy the following sentences leaving a line blank after each one. Underline all of the subject nouns. Apply the test for animate or inanimate nouns to each subject noun and place Nan or Nin in parentheses after each sentence.

Example: The boy put on his earmuffs. (Nan)

---

1. The horse broke the fence. ( )
2. The blue butterfly sat quietly on the orange zinnia. ( )
3. She was a good chairman. ( )
4. The policeman helped the child across the street. ( )
5. The otter disappeared under the log. ( )
6. They gave the children a party. ( )
7. The beatnik finally got his hair cut. ( )
8. The seal barked for its supper. ( )
9. He never believed his teachers. ( )
10. The electrician climbed quickly up the pole. ( )
11. The child pouted in the corner. ( )
12. The student threw his books across the room. ( )
13. The elephant plodded up the steps. ( )
14. We walked on the soft cement. ( )
15. George fell off the Honda. ( )

Did you discover that all of the sentences have animate nouns for subjects ? Now we are going to do something else to these sentences. You of course know that the word who and the word what are often used to ask questions. Let us try to use them to make questions out of the sentences in the previous exercise. Substitute who or what for the NP which contained the noun you underlined. Place the question on the blank line under each sentence. The example sentence would look like this:

Who put on his earmuffs?

Check your answers with your teacher.

Exercise 2:
Place all of the subject nouns which you replaced by who in the one column. List all of the nouns which you replaced by what in a second column.

replaced by who	replaced by what
boy	

Study the words in the two columns and see if you can decide what is the difference between the words in each. What do we call nouns like those in the first column? What would be a good label for this kind of noun? Let's apply the symbol Nhum to these nouns. The nouns in the second column are called nonhuman nouns. We use the label Nnon when referring to these nouns. Remember that all of these nouns, both those in the first and those in the second columns, are animate nouns. Can you explain now how to test whether an animate noun is human or nonhuman?

Exercise 3:
Copy the following nouns and test them by putting them into this frame:

_____ is here.

and then by making a question of each by substituting who or what. In the parentheses after each noun, write Nhum or Nnon.

Mexican ( ), Peter ( ), mouse ( ), spaniel ( ), choirboy ( ), wolf ( ), she ( ), it ( ), cobbler ( ), banker ( ), hamster ( ), custodian ( ), lizard ( ), gentlemen( ).

Exercise 4:
Copy the following sentences and underline all the nouns you can find.

1. The hitchhiker thumbed a ride.
2. The weasel stole an egg.
3. His friends went into the house.
4. The firecracker surprised the children.
5. He quickly slammed the door.
6. The fire spread to our house.
7. The koala hid behind the tree.
8. A picnic will be fun.
9. The sophomore became president.
10. A snake wiggled across the path.

Place the inanimate nouns from each sentence in one column and the animate nouns in a second column. After each animate noun say if it is human or non human.

Example:

inanimate	animate
ride	hitchhiker (Nhum)

In this section we have discovered that animate nouns can be subdivided into two other types of nouns. What are those

subdivisions? Can you state a rule that shows that animate nouns will be either human or non human? Use the symbols Nhum and Nnon, and show that the animate noun will be one or the other, but not both.

Rule (16) Nan----> {Nhum, Nnon}

Review: How do we test nouns to find if they are mass nouns or count nouns?

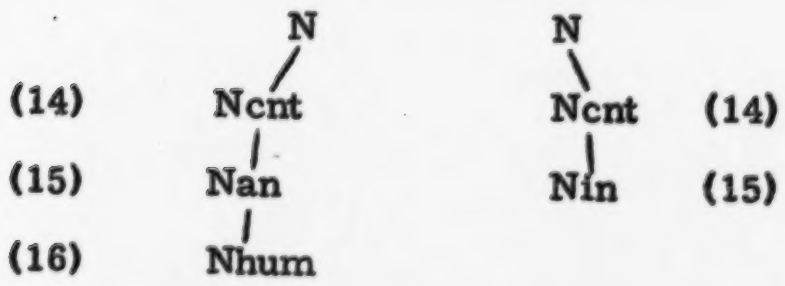
How do we test count nouns to discover if they are animate?

How do we test animate nouns to discover if they are human?

Exercise 5:
Copy the following sentences leaving several lines blank after each. Underline the nouns. Under each noun apply rules 14, 15, and 16. That is, say first if the noun is Nm or Ncnt. If it is Ncnt say also if it is Nan or Nin. Finally, if a noun is animate say if it is Nhum or Nnon. Use numbers to show which rules you have applied.

A. Example

1. The clown rode a bicycle.



2. The milk spilled on the floor.
3. A coconut fell on the pigmy.
4. The farmers took their pigs to market.
5. Freddy filled his pen with ink.
6. We gave our dog a sleeping pill.
7. The statue resembles a shark.
8. The chef put mayonnaise in the salad.
9. Dryness drove the deer out of the hills.
10. The music at the hootenanny startled the horses.

B. 1. The jury decided on the verdict.
2. Casey waved his hand at the crowd.
3. The patient received oxygen at the hospital.
4. Helicopters carried equipment to the seamen.
5. Fire is the greatest danger to our forests.

6. The beavers needed time to build a dam.
7. Light filled the room from above.
8. His sleeping was not disturbed by the quacking of the ducks.
9. Mice had been eating the grain in the cellar.
10. His enthusiasm made everyone want to wash dishes.

To Remember:	Some animate nouns are also human nouns. You can test for them by trying to substitute <u>who</u> or <u>what</u> in forming a question about them.

NUMBERS OF MASS NOUNS

Let us review two rules which we worked out earlier. In Rule 13 we talked about number of nouns (N^o). We found that every noun has number which attaches to it. We said that there was something about every noun which means one or more than one. A way to test nouns to find out if they mean one or more than one is to try them in the following frames:

1. _____ is.

2. _____ are.

Make a list of ten nouns which mean one. Try them in the frames. Which frame do they fit in? We say these nouns are singular.

In Rule (14) we found that nouns can be either mass nouns or count nouns. What were some of the mass nouns? Make a list of as many as you can think of. Remember the test we used to determine mass nouns (How many? or How much?) Now try these mass nouns in the frames above. Which frame do they fit? Can you think of any mass nouns which would fit in frame 2? Because mass nouns always fit in the frame with is, we say their number is singular. Our symbol for singular is sing.

We can say that mass nouns are always singular, or we can say that number (N^o) is always singular when the noun it refers to is a mass noun. Using our symbols we canstate the rule this way:

Rule (17) N^o-------> sing in context Nm + _____

(in context means occurring with)

In this rule we have an example of something which we will find more and more often as we study more complicated parts of our grammar. It is this: the form a word takes is often dependent on what else is found in the sentence. We say that such words are context sensitive. What they are depends on what is around them, their context. We say they are sensitive to it. So in this rule, a mass noun has an effect on the number (N^o) which attaches to it.

Exercise 1:
Copy the sentences below, underline the subject nouns, and fill the blanks with is or are:

1. The cups_____on the table.
2. The milk_____on the table.
3. The money_____under the mattress.
4. The chairs_____in the truck.
5. The ice_____about to melt.
6. The mice_____in the desk drawers.
7. The houses_____sliding down the hill.

8. The grass_____turning green.
9. The tire_____flat.
10. A fly_____on the cake.

(Notice that the form of the verb in these sentences is controlled by the number of the subject noun. We call this subject-verb agreement. Notice also that even in sentences like 7 and 8, where the is and are are parts of the be + ing auxiliary, the number of the subject noun still controls the choice of the verb)

Exercise 2:
Make strings of symbols of these sentences.

A. 1. The cereal will be cold.
2. The army has been retreating.
3. Corn is popping cheerily.
4. The heat was becoming unbearable.
5. The boys have challenged the girls.

B. 1. Time has been passing quickly.
2. The sheep were following the dogs.
3. The radium weighs an ounce.
4. This herd has been looking sick.
5. Pride has been a weakness.

SINGULAR AND PLURAL

We have been talking about number of nouns and using the symbol N^o to refer to it. We say that number attaches to every noun. We use the term singular to mean one, and plural to mean more than one. In Rule (17) we used the symbol sing to stand for singular. The symbol for plural is, of course, plur. We also tested nouns to find out if they meant one (singular) or more than one (plural) by trying them in frames with is and are. What did we discover about mass nouns?

Exercise 1:
Copy the following sentences and underline all the nouns. Above each write sing or plur. In case of doubt apply the test. (Include pronouns)

Example:

plur. sing.
1. The locusts in the tree sang shrilly.
2. The floors had been waxed.
3. The box was full of tests.
4. The men wouldn't put their cars in the garage.
5. Cream comes to the top of milk.
6. The robbers escaped with most of the money.
7. The cement for the patio is in the wheelbarrow.
8. A guest knocked at the door.
9. People are coming for dinner.
10. He will never finish the exam on time.

Usually we can notice a difference in the form of nouns which mean one and those which mean more than one. (Boy means one; boys means more than one. Mouse means one; mice means more than one) But in a few cases there is no visible form to help us. For instance, if someone says "I saw the sheep" does he mean one sheep or more than one? But even in these cases where there is no visible sign, still each noun has number and you will have to look for other ways to decide what the number is. Usually the rest of the sentence will help you.

Exercise 2:
Here is a list of singular nouns. Copy them and then write the plural form.

1. triangle _____
2. girl _____
3. goose _____
4. fly _____
5. bird _____
6. child _____
7. cell _____

8. verb_____
9. milk_____
10. pencil_____

B. Copy the following plural nouns and then write the singular form.

_____schools
_____valleys
_____towns
_____editors
_____women
_____cookies
_____mice
_____horses
_____pies
_____cakes

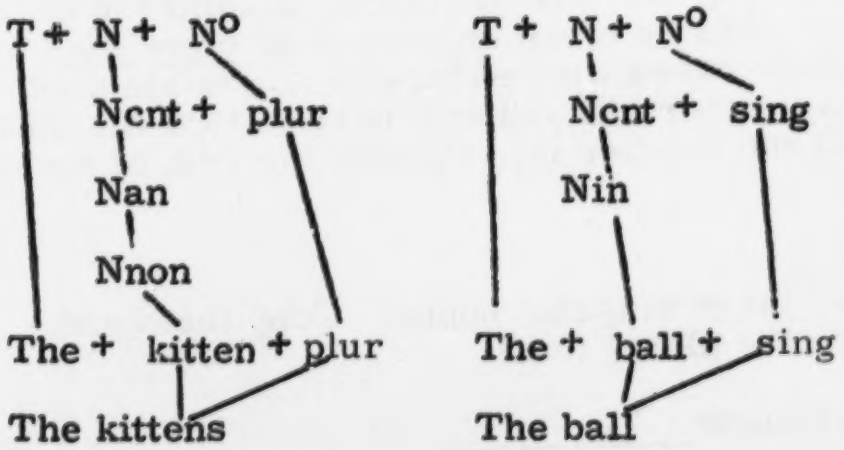
Making use of the linguistic symbols N, sing and plur can you phrase a rule to show that all nouns will be either singular or plural? Did your rule look like this?

Rule (18) $N \longrightarrow \left\{ \begin{matrix} sing \\ plur \end{matrix} \right\}$

What do the braces mean?

Exercise 3:
Copy the following sentences and underline the NP's. Write the string of linguistic symbols which underlie each NP by applying each of the Noun Phrase rules.
A. Example:

1. The kittens played with the ball.



2. The rockets flashed in the sky.
3. That car is covered with tar.
4. The girl played with the puppies.
5. Silver will never turn to gold.
6. A frog croaked in the swamp.

7. The astronauts were standing by the tower.
8. The rhododendrons will soon bloom on the coast.
9. The posse was looking for the camp.
10. Scheherazade told the Sultan stories of love.

B. 1. Beauty is in the eye of the beholder.
2. The flight took thirty minutes by jet.
3. The crew is adding turpentine to the fire.
4. Deer cross the pasture for food.
5. Thinking separates men from beasts.

C. Write the string of symbols for each of the following sentences.
1. The skier slid down the slope smoothly.
2. The redwoods have grown gigantic.
3. The hamster has been chewing the cage.
4. Water has been dripping slowly.
5. The freshmen will be going to school reluctantly.

To Remember: All nouns are either singular or plural.

Singular nouns can appear with _____is.

Plural nouns can appear with _____are.

SUMMING UP

We have now finished our analysis of English kernel sentences. We started with the idea that all English sentences have a Noun Phrase and a Verb Phrase and broke each of these parts down into smaller and smaller parts. Each time that we broke a part down into smaller parts we wrote a rule to describe what happened. We call such rules Phrase Structure rules because they are the rules that show us how the phrases of the English sentence are built. We have 18 of these rules. So that you can have them all in one place we list them here:

(1) Sentence----> NP + VP

(2) VP-----> Aux + Verb

(3) Aux----> Aux_1 (Aux_2)

(4) Aux_1----> Tns (M)

(5) Tns----> {pres, past}

(6) Aux_2----> (have + en) (be + ing)

(7) Verb----> {Be + Pr, Vrb}

(8) Vrb----> {Vlnk + Pr, Vb}

(9) Vb----> {Vmid + NP, V (Man)}

(10) V----> {Vin, Vtr + NP}

(11) Pr----> {Adj, NP, Loc}

(12) Man----> Adj + ly

(13) NP---> T + N + N^{o}

(14) N----> {Ncnt, Nm}

(15) Ncnt---> {Nan, Nin}

(16) Nan---> {Nhum, Nnon}

(17) N^o----> sing in the context Nm + _____

(18) N^o----> {sing, plur}

In later years we will expand these rules further but even with the rules you know now you should be able to analyze many of the basic sentences of our language. You do this by applying all the rules, one by one, to the sentences you are analyzing. This will leave you with a string of symbols which can be rewritten as the sentence. You probably recall how you did this for many sentences in the exercises in our earlier discussions.

How did we know that we had written all the rules that were needed for us to analyze kernel sentences? Look at the rules above. Each time that we wrote a rule we were rewriting some element on the left side of the arrow into symbols on the right side. Then one by one we broke down the symbols on the right side by making new rules for them. Finally we had symbols which couldn't be broken down any further. Most of them could be rewritten as words of our language. We call these symbols terminal symbols because they are the last step before we convert them to the sentences of our language.

For instance: We don't need to rewrite Vtr any further because it is actually one of the kinds of verbs of our language, and we can find examples of it among the verbs we use. We have defined it by finding out things that are true about it but not all true about any other kind of verb. Now we can rewrite Vtr in the form of one of the verbs of our language which fit its requirements.

Exercise 1:
With your teacher's help go through all of the phrase structure rules and make a list of the symbols which were left on the right of the arrows and not broken down any further.

These symbols you have listed are terminal symbols. Do all of them stand for words in our language? Which ones don't? What do these symbols tell us, then? We call them grammatical symbols because they give us some instruction as to the form various words will take in a sentence. For instance, the symbol pres doesn't become any word, but it does tell us something about the form the verb of a sentence will take.

Now look at the remaining terminal symbols and think of some words which fit them. You may find it helpful to read through the rule which finally arrived at the terminal symbol. The examples used there will have words that fit. For instance: some of the verbs used as linking verbs in the discussion of Rule (8) were become, taste, turn, remain, stay, smell, etc. You should also check the lists you have been keeping in your notebook. We can write rules to show that various symbols convert to words. For instance we can say

Vlnk----> {become, taste, turn, remain, stay, smell. . .}

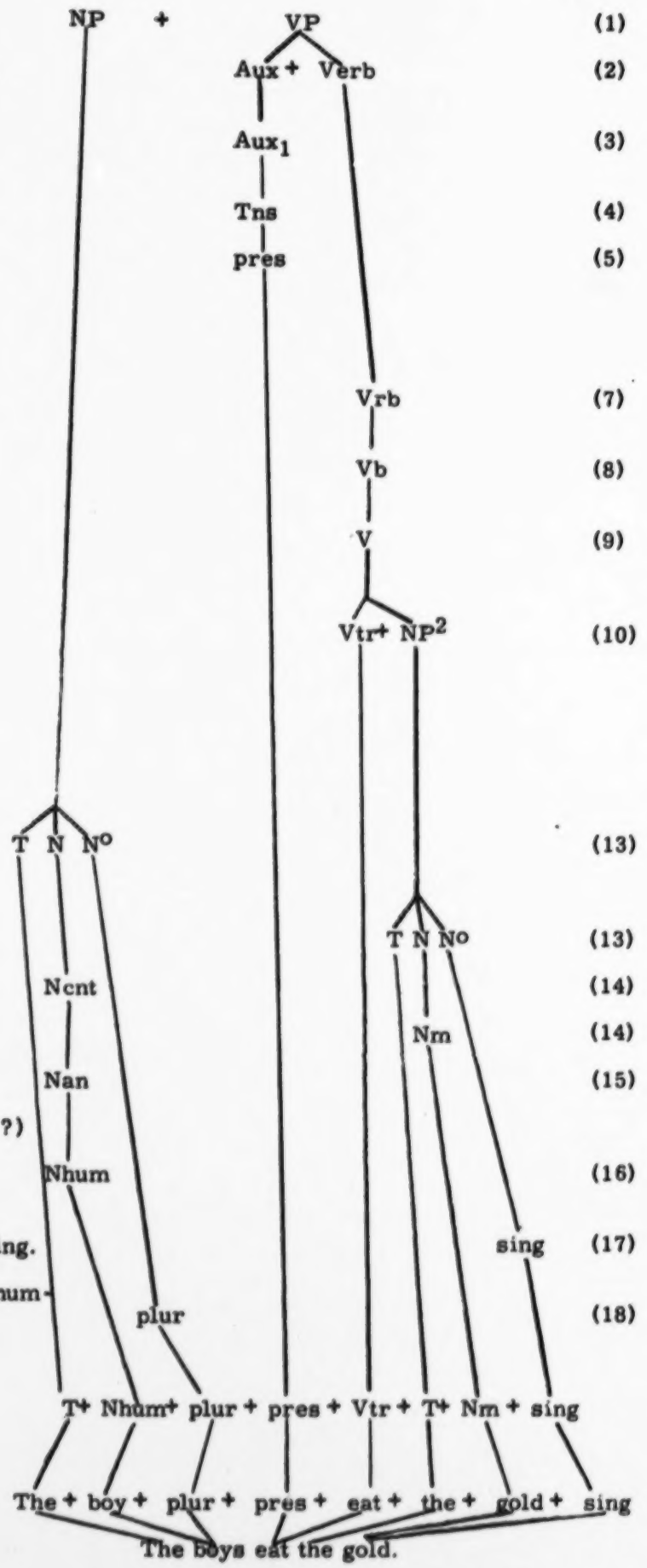
Since in any one sentence we will find only one of these verbs and no others we use the brace. The three dots mean that we haven't listed all the linking verbs of the language. You can add more. Notice that the verbs are listed in the root form. We call such rules lexical rules. Together they form a lexicon of our language.

Exercise 2:
Rewrite each of the terminal symbols (which aren't grammatical symbols) as actual words of our language. Think of as many examples as you can. You may find that some verbs will appear in more than one list. (For instance: grow in the sentence "The farmer grows corn." is a Vtr; but the grow in "John grows tall." is a Vlnk).

Now let's play a kind of game, a generating game, with our various rules. Let's go through the rules, one by one, choosing items wherever it is necessary to make a choice. We should end up with a string of terminal symbols for which we can choose actual words to produce sentences.

Exercise 3:
Using the example on the next page as a model generate five sentences of your own by applying each of the rules, and choosing symbols wherever a choice must be made. Remember that some rules allow no choice.

Example: Starting with Rule (1) we say our sentence must have NP and VP


NP + VP (1)
Aux + Verb (2)
Aux1 (3)
Tns (4)
pres (5)
Vrb (7)
Vb (8)
V (9)
Vtr + NP2 (10)
T N No (13)
T N No (13)
Ncnt (14)
Nm (14)
Nan (15)
Nhum (16)
sing (17)
plur (18)
T + Nhum + plur + pres + Vtr + T + Nm + sing
The + boy + plur + pres + eat + the + gold + sing
The boys eat the gold.

Rule (2) The VP must have Aux and Verb

Rule (3) Let's say our sentence has Aux_1 but not Aux_2

Rule (4) Let's say Aux will show tense but no modal

Rule (5) Let's say Tns is pres

Rule (6) This rule doesn't apply since we didn't choose Aux_2

Rule (7) Let's say our verb isn't Be. Therefore it will be Vrb.

Rule (8) Let's say our Vrb is not a Vlnk so it must be part of Vb.

Rule (9) Let's say it is not a Vmid. That leaves us V.

Rule (10) Let's say it is a transitive verb and therefore it is followed by an NP.

Rule (11) We won't use this rule since we have no predicate

Rule (12) And we do not need to apply Rule (12). Why?

Rule (13) Now we expand our NP and say it must have T, N, and N^o.

Rule (13) Now we apply it again to NP^2.

Rule (14) Let's say NP^1 is a Ncnt.

Rule (14) Let's say our NP^2 is a Nm

Rule (15) Let's say our Ncnt is a Nan.

(We don't apply Rule (15) to N^2. Why?)

Rule (16) Let's say our Nan is a Nhum.

Rule (17) We apply Rule (17) to the Nm and say that its number is sing.

Rule (18) Applying Rule (18) let's say the number of N^1 is plural

Now we have proceeded through all the steps and have only terminal symbols left, which we will bring down into a string

Now let's translate this string of symbols into a sentence string, choosing from the lexicon.

Which gives us:

This is, of course, a nonsense sentence, but it is also a grammatical English sentence according to our rules because we have produced it by applying each of our rules. If we were to choose another mass noun, such as rice, it would be grammatical and sensible.